

Peltier Cooler for OPTIC Inlet

For cold injections in gas chromatography, it is sometimes required to inject a sample below ambient temperature. This requirement comes from a need to either enrich the sample, improve recovery of a specific component or prevent its thermal degradation. As of now, the GC inlet is mostly cooled using liquid nitrogen (LN2) or liquid CO2. In addition to the known safety issues, the use of the cryogenic cooling increases the analysis cost. A high running cost of the inlet cooling can be greatly reduced by replacing the cryogenic system with a Peltier cooler. The cooler is designed for the OPTIC inlet and uses the dry compressed air or nitrogen gas as a cooling media. It is especially attractive in cases when cooling to sub-ambient temperatures is not required.

- **OPTIC Inlet temperature down to 7°C**
- **Dry compressed Air or Nitrogen as cooling media**
- **Good for Dichloromethane injections**

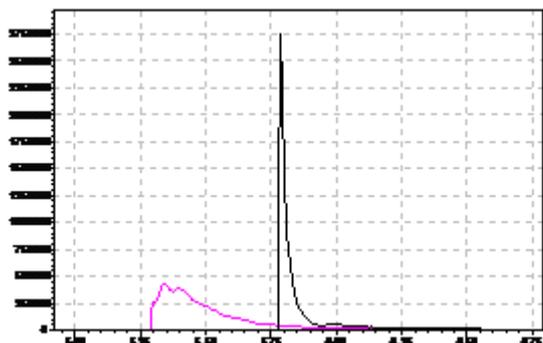


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Application:

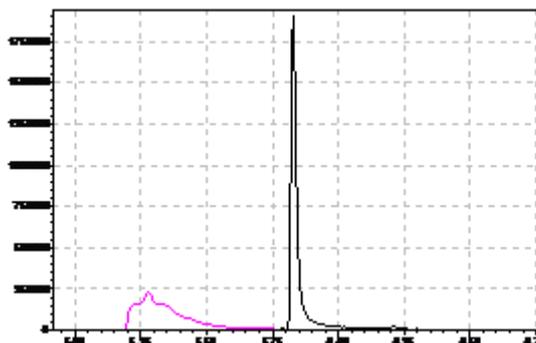
Large Volume Injection of EPA 8270 Restek MegaMix® using Dichloromethane as a solvent. Significant recovery improvement can be seen for 'difficult-to-retain' components like Pyridine and N-Nitrosodimethylamine.



Component: Pyridine, m/z: 79

Pink: LVI 25µl injection, the inlet at 30°C

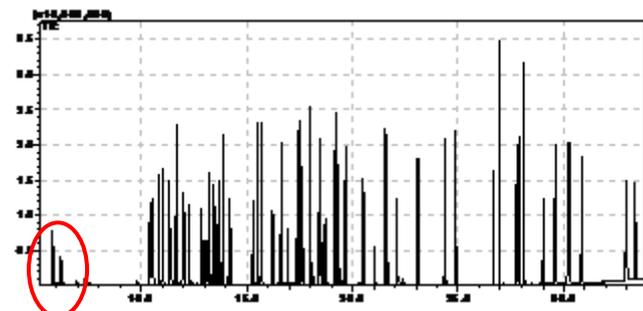
Black: LVI 25µl injection, the inlet at 7°C



Component: N-Nitrosodimethylamine, m/z: 74

Pink: LVI 25µl injection, the inlet at 30°C

Black: LVI 25µl injection, the inlet at 7°C



TIC chromatogram of 8270 MegaMix®

MegaMix® is a registered trade mark of Restek Corporation

Specifications:

Cooling method:	Peltier
Cooling media:	Dry air (Dew point -20°C or lower), Nitrogen
Inlet Temperature*:	down +7 °C, at ambient temperature ≤ 22°C, GC oven at 40°C, GC cycle time <30 min.
Dimension:	24(W) x 27(D) x 30(H) cm
Weight:	Approx. 13kg
Mains Power:	100 /240 VAC, 50-60 Hz
Max. power consumption:	180 Watt

* Lowest temperature limit strongly depends on the ambient temperature.

Part number information:

	P/No
OPTIC-Cooler	2406-4180
Dry Air Kit	2406-4181

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